Fig.1.

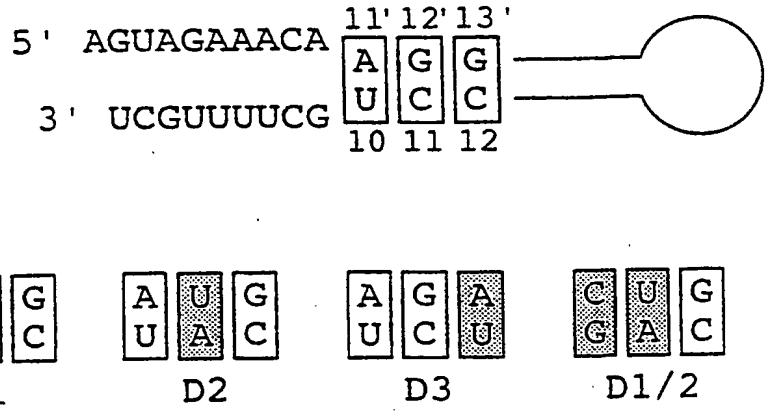
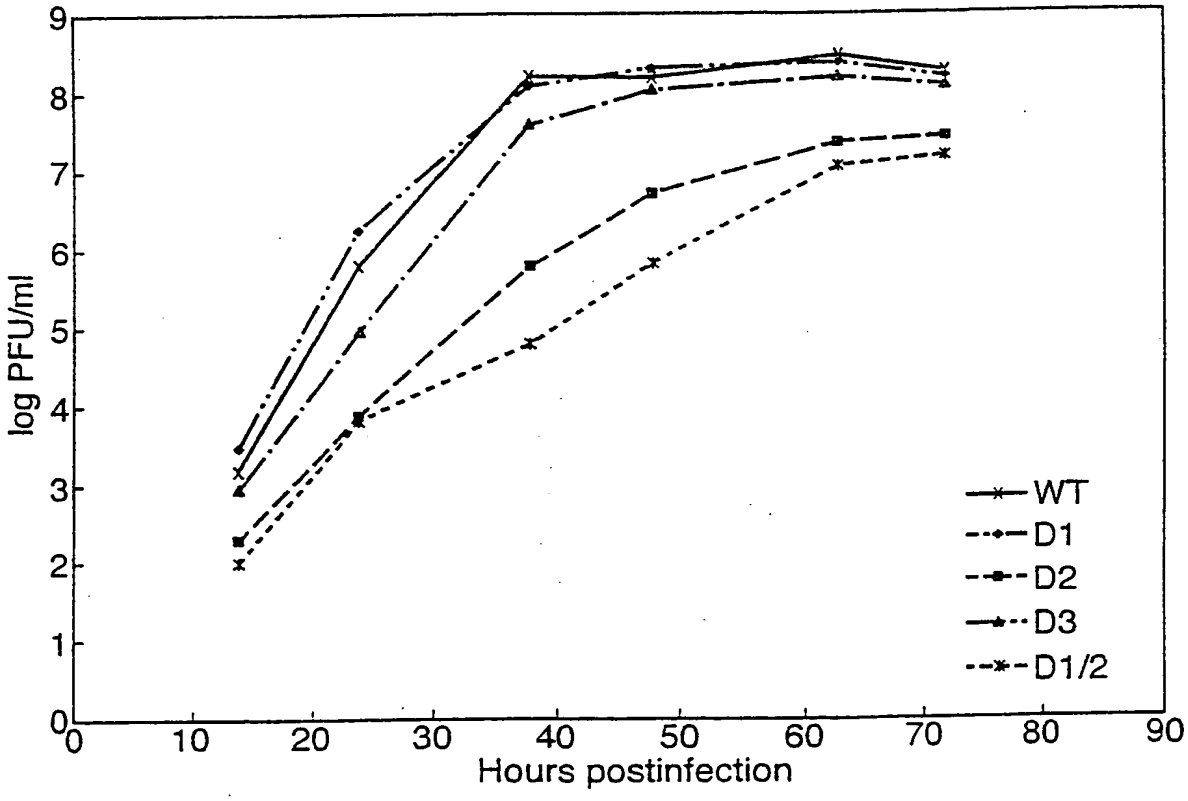

5' AGUAGAAACA
3' UCGUUUUCG
11' 12' 13'
A U G C G C
10 11 12
C G G C G C
D1
A U U A G C
D2
A U G C A U
D3
C G U A G C
D1/2

Fig.2.


log PFU/ml
Hours postinfection
0
1
2
3
4
5
6
7
8
9
0
10
20
30
40
50
60
70
80
90
WT
D1
D2
D3
D1/2

# Fig.3.

```
   1  TCTTCCGCTT CCTCGCTCAC TGACTCGCTG CGCTCGGTCG TTCGGCTGCG
  51  GCGAGCGGTA TCAGCTCACT CAAAGGCGGT AATACGGTTA TCCACAGAAT
 101  CAGGGGATAA CGCAGGAAAG AACATGTGAG CAAAAGGCCA GCAAAAGGCC
 151  AGGAACCGTA AAAAGGCCGC GTTGCTGGCG TTTTTCCATA GGCTCCGCCC
 201  CCCTGACGAG CATCACAAAA ATCGACGCTC AAGTCAGAGG TGGCGAAACC
 251  CGACAGGACT ATAAAGATAC CAGGCGTTTC CCCCTGGAAG CTCCCTCGTG
 301  CGCTCTCCTG TTCCGACCCT GCCGCTTACC GGATACCTGT CCGCCTTTCT
 351  CCCTTCGGGA AGCGTGGCGC TTTCTCATAG CTCACGCTGT AGGTATCTCA
 401  GTTCGGTGTA GGTCGTTCGC TCCAAGCTGG GCTGTGTGCA CGAACCCCCC
 451  GTTCAGCCCG ACCGCTGCGC CTTATCCGGT AACTATCGTC TTGAGTCCAA
 501  CCCGGTAAGA CACGACTTAT CGCCACTGGC AGCAGCCACT GGTAACAGGA
 551  TTAGCAGAGC GAGGTATGTA GGCGGTGCTA CAGAGTTCTT GAAGTGGTGG
 601  CCTAACTACG GCTACACTAG AAGGACAGTA TTTGGTATCT GCGCTCTGCT
 651  GAAGCCAGTT ACCTTCGGAA AAAGAGTTGG TAGCTCTTGA TCCGGCAAAC
 701  AAACCACCGC TGGTAGCGGT GGTTTTTTTG TTTGCAAGCA GCAGATTACG
 751  CGCAGAAAAA AAGGATCTCA AGAAGATCCT TTGATCTTTT CTACGGGGTC
 801  TGACGCTCAG TGGAACGAAA ACTCACGTTA AGGGATTTTG GTCATGAGAT
 851  TATCAAAAAG GATCTTCACC TAGATCCTTT TAAATTAAAA ATGAAGTTTT
 901  AAATCAATCT AAAGTATATA TGAGTAAACT TGGTCTGACA GTTACCAATG
 951  CTTAATCAGT GAGGCACCTA TCTCAGCGAT CTGTCTATTT CGTTCATCCA
1001  TAGTTGCCTG ACTCCCCGTC GTGTAGATAA CTACGATACG GGAGGGCTTA
1051  CCATCTGGCC CCAGTGCTGC AATGATACCG CGAGACCCAC GCTCACCGGC
1101  TCCAGATTTA TCAGCAATAA ACCAGCCAGC CGGAAGGGCC GAGCGCAGAA
1151  GTGGTCCTGC AACTTTATCC GCCTCCATCC AGTCTATTAA TTGTTGCCGG
1201  GAAGCTAGAG TAAGTAGTTC GCCAGTTAAT AGTTTGCGCA ACGTTGTTGC
1251  CATTGCTACA GGCATCGTGG TGTCACGCTC GTCGTTTGGT ATGGCTTCAT
1301  TCAGCTCCGG TTCCCAACGA TCAAGGCGAG TTACATGATC CCCCATGTTG
```

# Fig.3 (Cont i).

```
1351  TGCAAAAAAG CGGTTAGCTC CTTCGGTCCT CCGATCGTTG TCAGAAGTAA
1401  GTTGGCCGCA GTGTTATCAC TCATGGTTAT GGCAGCACTG CATAATTCTC
1451  TTACTGTCAT GCCATCCGTA AGATGCTTTT CTGTGACTGG TGAGTACTCA
1501  ACCAAGTCAT TCTGAGAATA GTGTATGCGG CGACCGAGTT GCTCTTGCCC
1551  GGCGTCAATA CGGGATAATA CCGCGCCACA TAGCAGAACT TTAAAAGTGC
1601  TCATCATTGG AAAACGTTCT TCGGGGCGAA AACTCTCAAG GATCTTACCG
1651  CTGTTGAGAT CCAGTTCGAT GTAACCCACT CGTGCACCCA ACTGATCTTC
1701  AGCATCTTTT ACTTTCACCA GCGTTTCTGG GTGAGCAAAA ACAGGAAGGC
1751  AAAATGCCGC AAAAAAGGGA ATAAGGGCGA CACGGAAATG TTGAATACTC
1801  ATACTCTTCC TTTTTCAATA TTATTGAAGC ATTTATCAGG GTTATTGTCT
1851  CATGAGCGGA TACATATTTG AATGTATTTA GAAAAATAAA CAAATAGGGG
1901  TTCCGCGCAC ATTTCCCCGA AAAGTGCCAC CTGACGTCTA AGAAACCATT
1951  ATTATCATGA CATTAACCTA TAAAAATAGG CGTATCACGA GGCCCTTTCG
2001  TCTCGCGCGT TTCGGTGATG ACGGTGAAAA CCTCTGACAC ATGCAGCTCC
2051  CGGAGACGGT CACAGCTTGT CTGTAAGCGG ATGCCGGGAG CAGACAAGCC
2101  CGTCAGGGCG CGTCAGCGGG TGTTGGCGGG TGTCGGGGCT GGCTTAACTA
2151  TGCGGCATCA GAGCAGATTG TACTGAGAGT GCACCATATG CGGTGTGAAA
2201  TACCGCACAG ATGCGTAAGG AGAAAATACC GCATCAGGCG CCATTCGCCA
2251  TTCAGGCTGC GCAACTGTTG GGAAGGGCGA TCGGTGCGGG CCTCTTCGCT
2301  ATTACGCCAG CTGGCGAAAG GGGGATGTGC TGCAAGGCGA TTAAGTTGGG
2351  TAACGCCAGG GTTTTCCCAG TCACGACGTT GTAAAACGAC GGCCAGTGAA
2401  TTCGAAGACG CAGCAAAAGC AGGAGTTTAA ATGAATCCAA ACCAGAAAAT
2451  AATAACCATT GGGTCAATCT GTATGGTAGT CGGAATAATT AGCCTAATAT
2501  TGCAAATAGG AAATATAATC TCAATATGGA TTAGCCATTC AATTCAAACC
2551  GGAAATCAAA ACCATACTGG AATATGCAAC CAAGGCAGCA TTACCTATAA
2601  AGTTGTTGCT GGGCAGGACT CAACTTCAGT GATATTAACC GGCAATTCAT
2651  CTCTTTGTCC CATCCGTGGG TGGGCTATAC ACAGCAAAGA CAATGGCATA
```

# Fig.3 (Cont ii).

```
2701  AGAATTGGTT CCAAAGGAGA CGTTTTTGTC ATAAGAGAGC CTTTTATTTC
2751  ATGTTCTCAC TTGGAATGCA GGACCTTTTT TCTGACTCAA GGCGCCTTAC
2801  TGAATGACAA GCATTCAAGG GGGACCTTTA AGGACAGAAG CCCTTATAGG
2851  GCCTTAATGA GCTGCCCTGT CGGTGAAGCT CCGTCCCCGT ACAATTCAAG
2901  GTTTGAATCG GTTGCTTGGT CAGCAAGTGC ATGTCATGAT GGAGTGGGCT
2951  GGCTAACAAT CGGAATTTCT GGTCCAGATG ATGGAGCAGT GGCTGTATTA
3001  AAATACAACC GCATAATAAC TGAAACCATA AAAAGTTGGA GGAAGAATAT
3051  ATTGAGAACA CAAGAGTCTG AATGTACCTG TGTAAATGGT TCATGTTTTA
3101  CCATAATGAC CGATGGCCCA AGTGATGGGC TGGCCTCGTA CAAAATTTTC
3151  AAGATCGAGA AGGGGAAGGT TACTAAATCA ATAGAGTTGA ATGCACCTAA
3201  TTCTCACTAC GAGGAATGTT CCTGTTACCC TGATACCGGC AAAGTGATGT
3251  GTGTGTGCAG AGACAATTGG CACGGTTCGA ACCGACCATG GGTGTCCTTC
3301  GACCAAAACC TAGATTATAA AATAGGATAC ATCTGCAGTG GGGTTTTCGG
3351  TGACAACCCG CGTCCCAAAG ATGGAACAGG CAGCTGTGGC CCAGTGTCTG
3401  CTGATGGAGC AAACGGAGTA AAGGGATTTT CATATAAGTA TGGCAATGGT
3451  GTTTGGATAG GAAGGACTAA AAGTGACAGT TCCAGACATG GGTTTGAGAT
3501  GATTTGGGAT CCTAATGGAT GGACAGAGAC TGATAGTAGG TTCTCTATGA
3551  GACAAGATGT TGTGGCAATA ACTAATCGGT CAGGGTACAG CGGAAGTTTC
3601  GTTCAACATC CTGAGCTAAC AGGGCTAGAC TGTATGAGGC CTTGCTTCTG
3651  GGTTGAATTA ATCAGGGGGC TACCTGAGGA GGACGCAATC TGGACTAGTG
3701  GGAGCATCAT TTCTTTTTGT GGTGTGAATA GTGATACTGT AGATTGGTCT
3751  TGGCCAGACG GTGCTGAGTT GCCGTTCACC ATTGACAAGT AGTTTGTTCA
3801  AAAAACTCCT TGTTTCTACT TTTAGTGAGG GTTAATAAGC TTGGCGTAAT
3851  CATGGTCATA GCTGTTTCCT GTGTGAAATT GTTATCCGCT CACAATTCCA
3901  CACAACATAC GAGCCGGAAG CATAAAGTGT AAAGCCTGGG GTGCCTAATG
3951  AGTGAGCTAA CTCACATTAA TTGCGTTGCG CTCACTGCCC GCTTTCCAGT
4001  CGGGAAACCT GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG
4051  AGAGGCGGTT TGCGTATTGG GCGC
```

Fig.4.

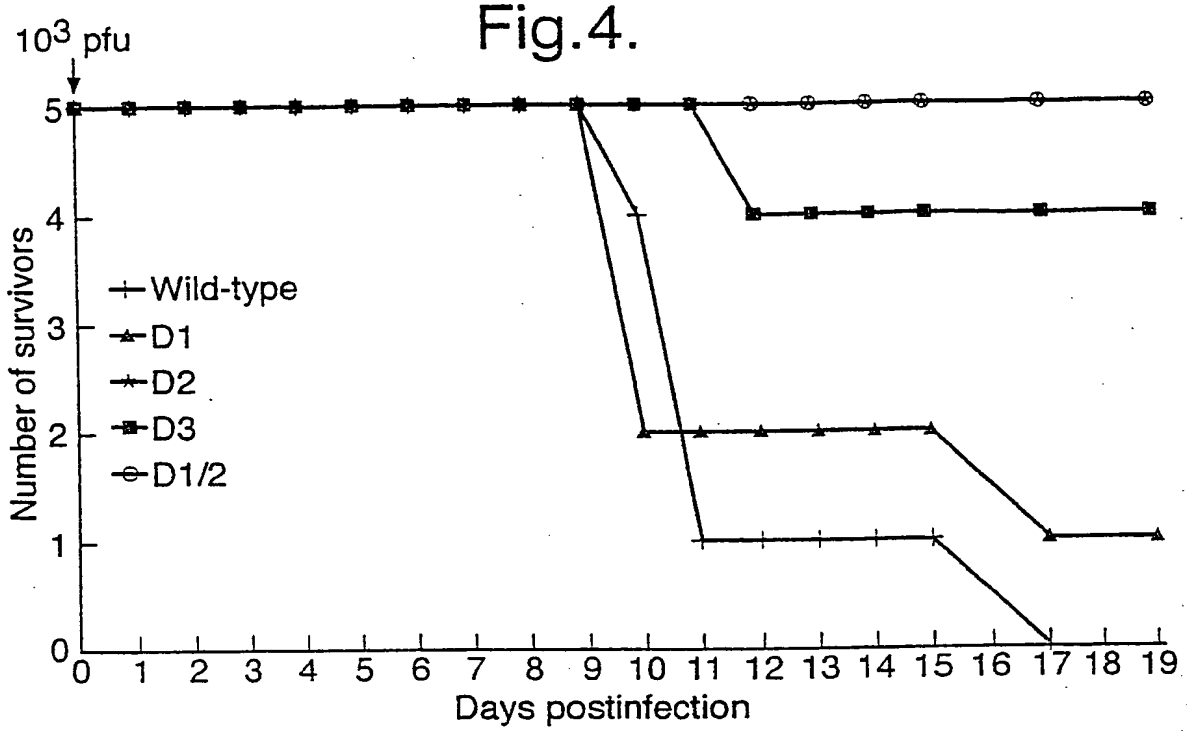

10³ pfu
Number of survivors
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.5.

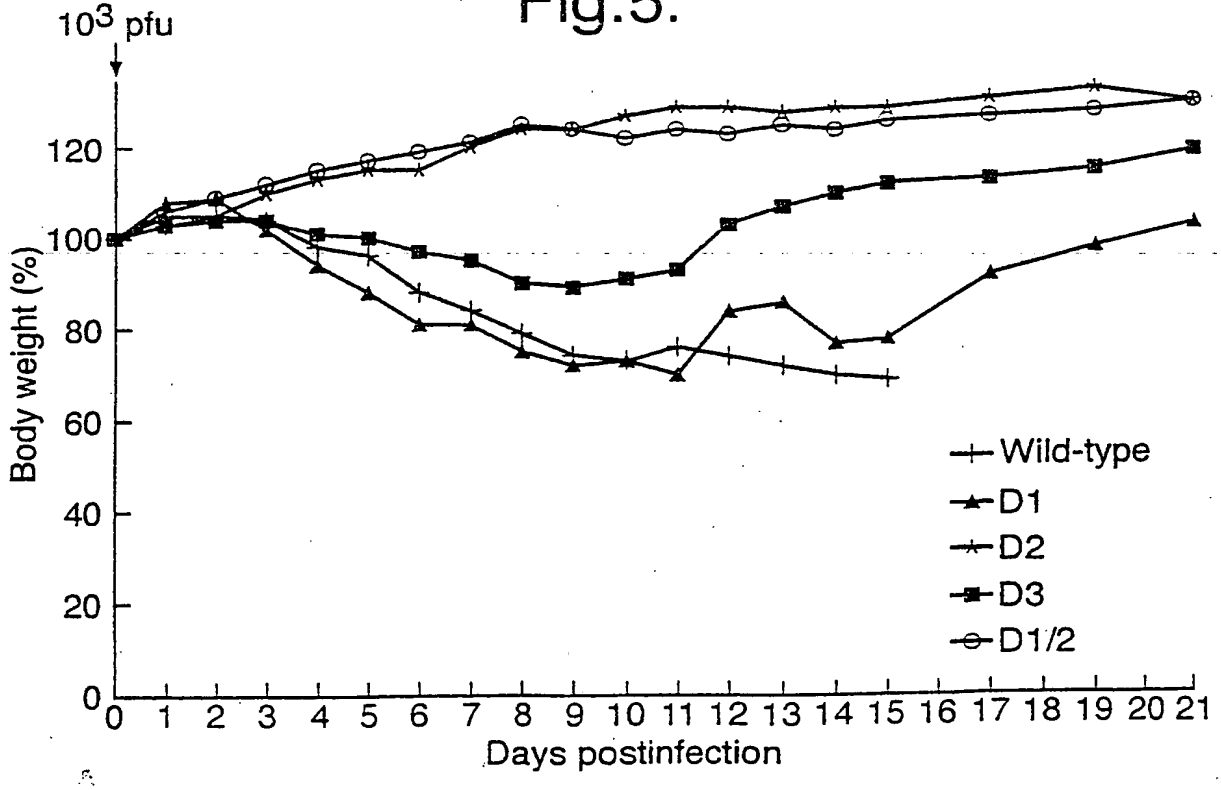

10³ pfu
Body weight (%)
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.6.

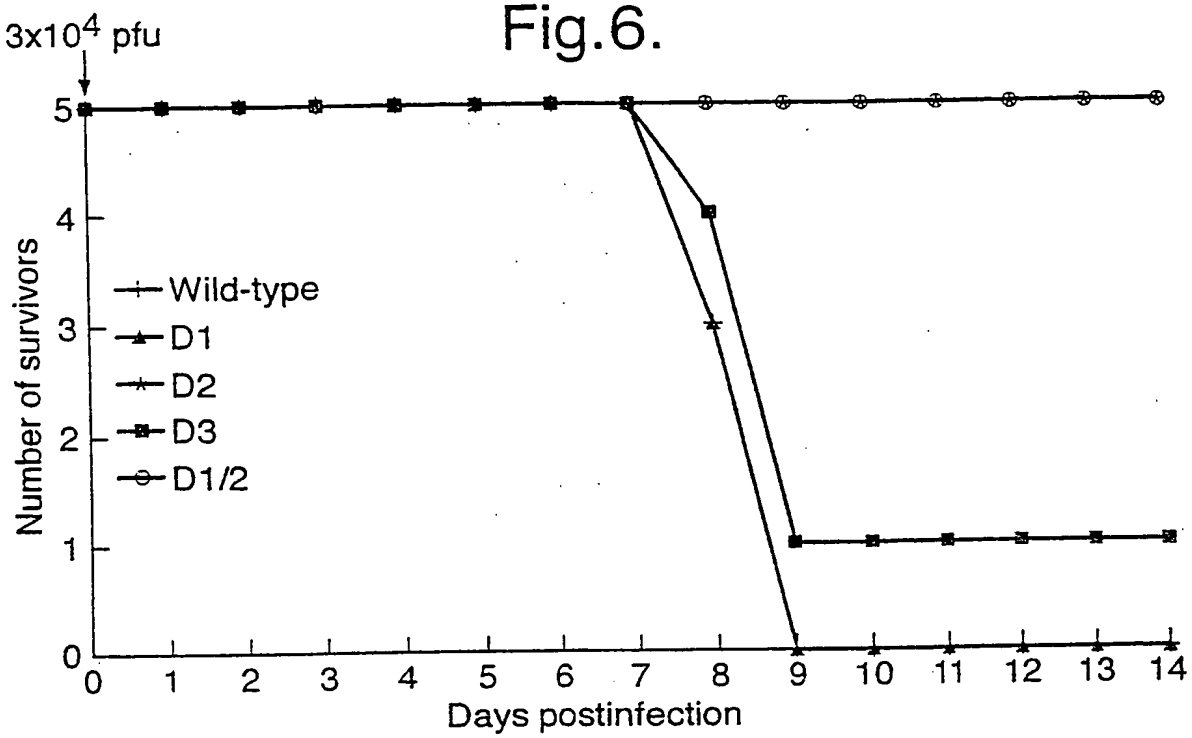

3x10^4 pfu
Number of survivors
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.7.

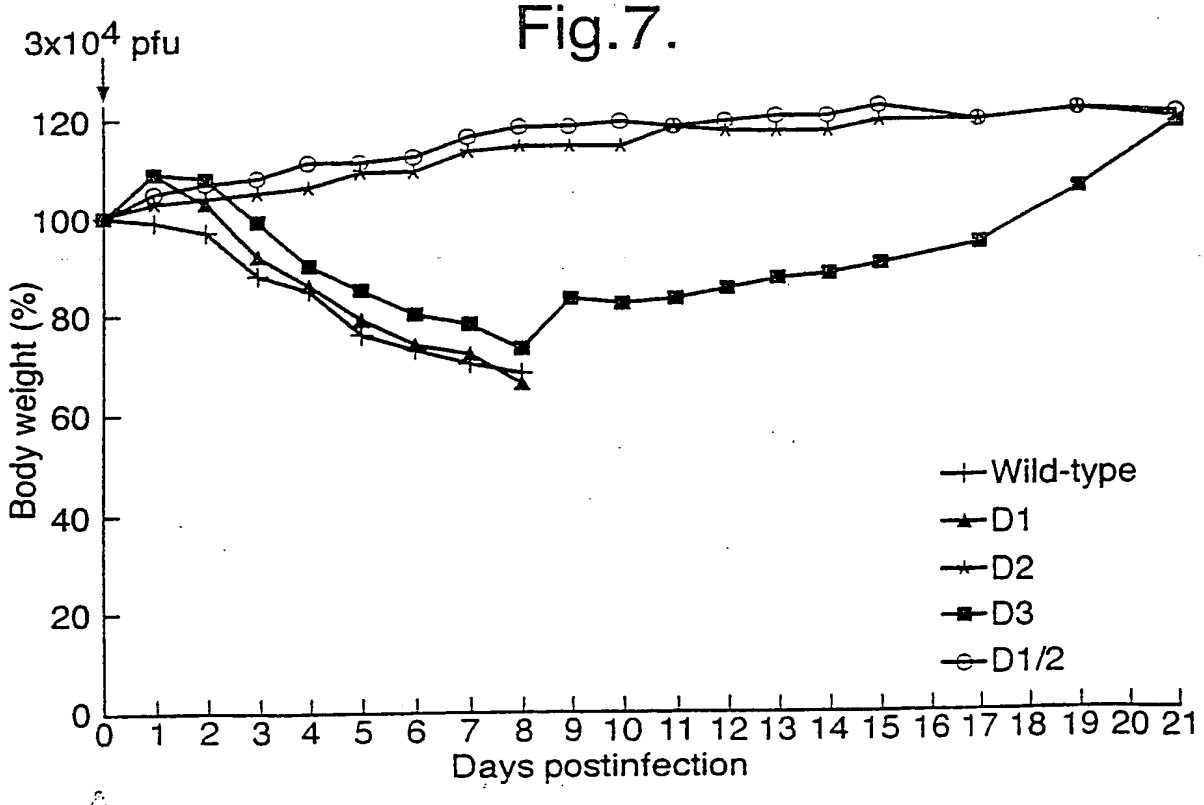

3x10^4 pfu
Body weight (%)
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.8.

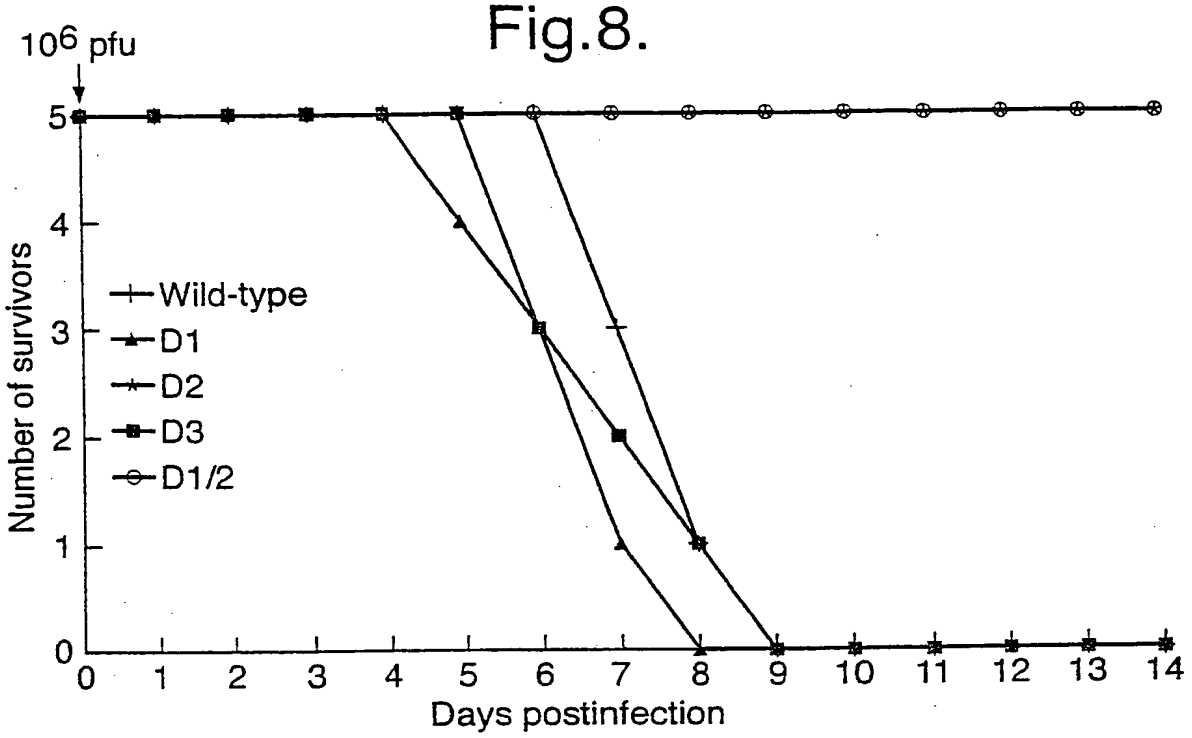

10^6 pfu
Number of survivors
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.9.

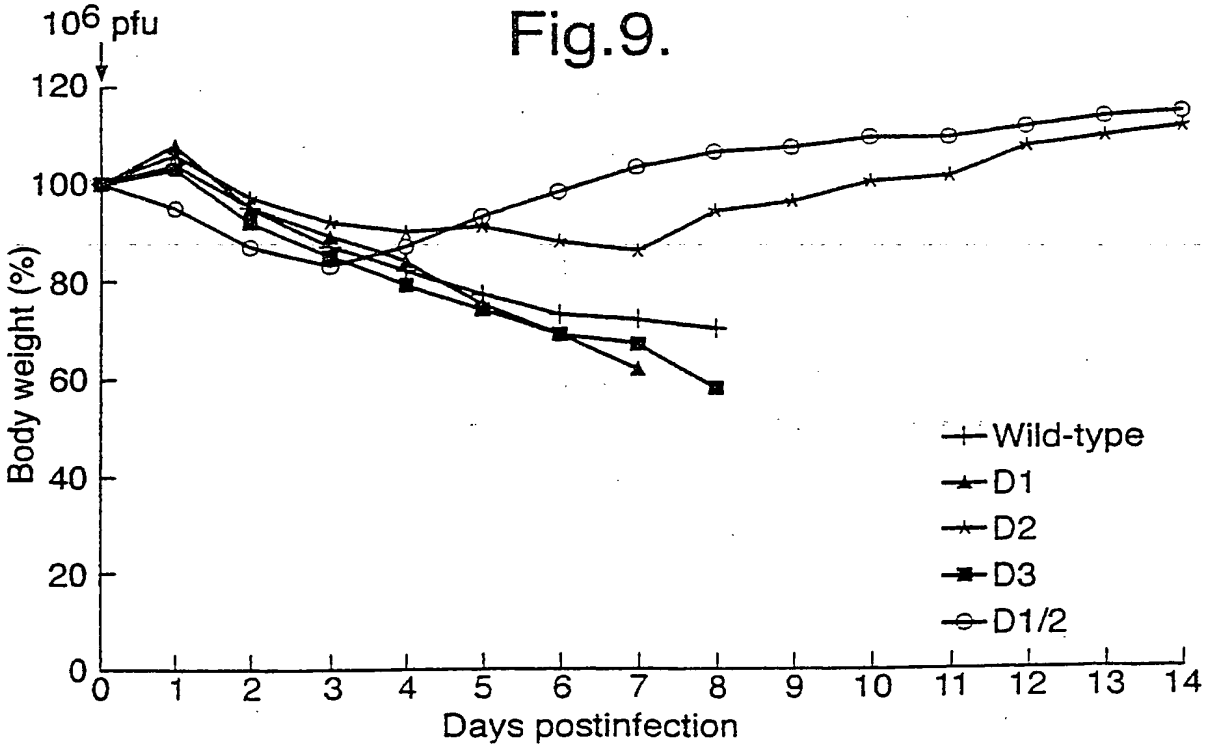

10^6 pfu
Body weight (%)
Wild-type
D1
D2
D3
D1/2
Days postinfection

Fig.10.

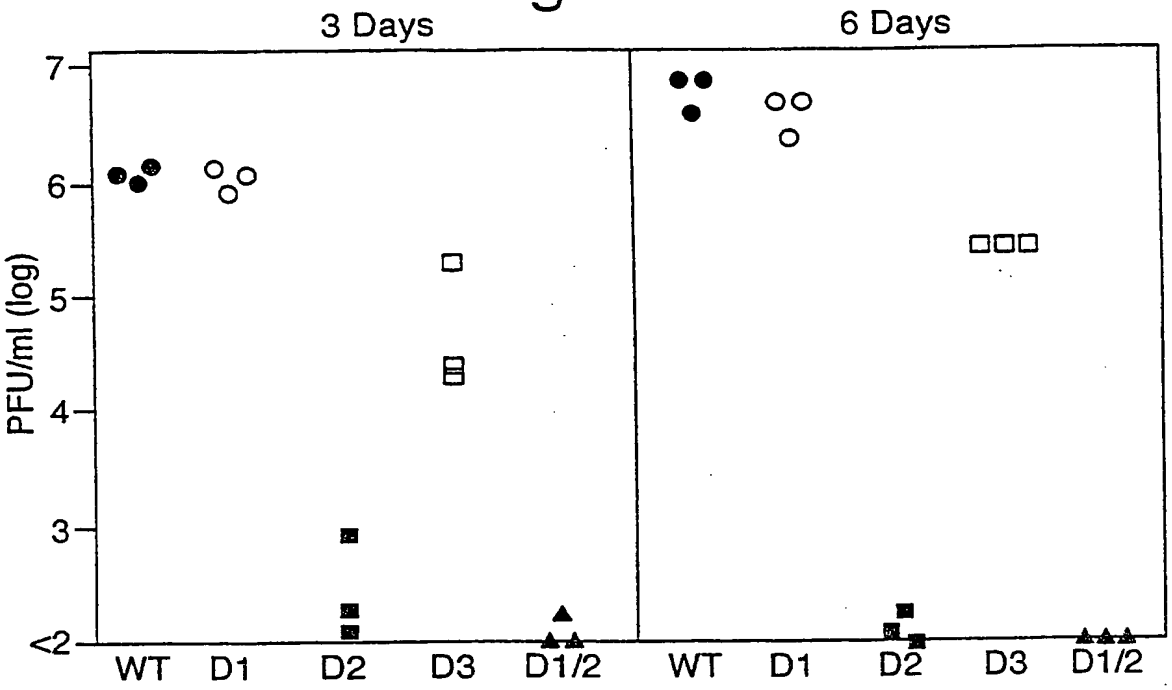

3 Days
6 Days
PFU/ml (log)
7
6
5
4
3
<2
WT
D1
D2
D3
D1/2
WT
D1
D2
D3
D1/2

Fig.11.

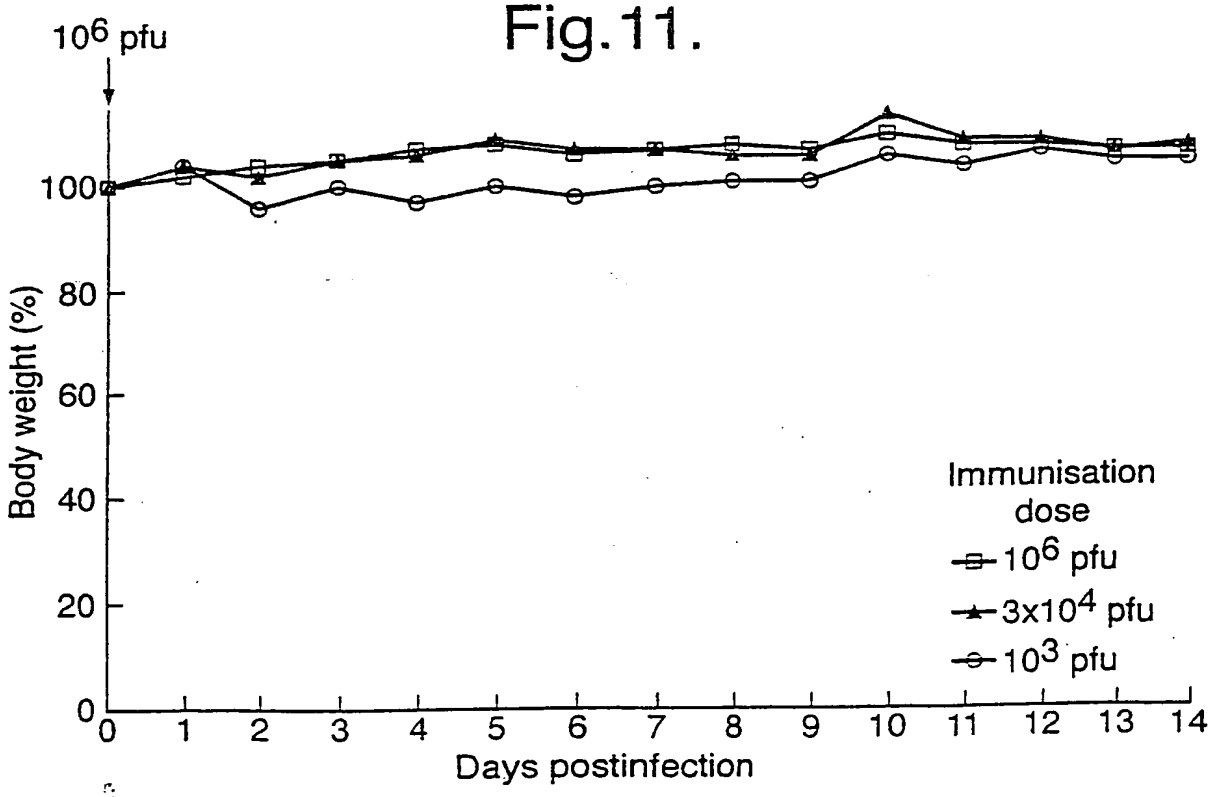
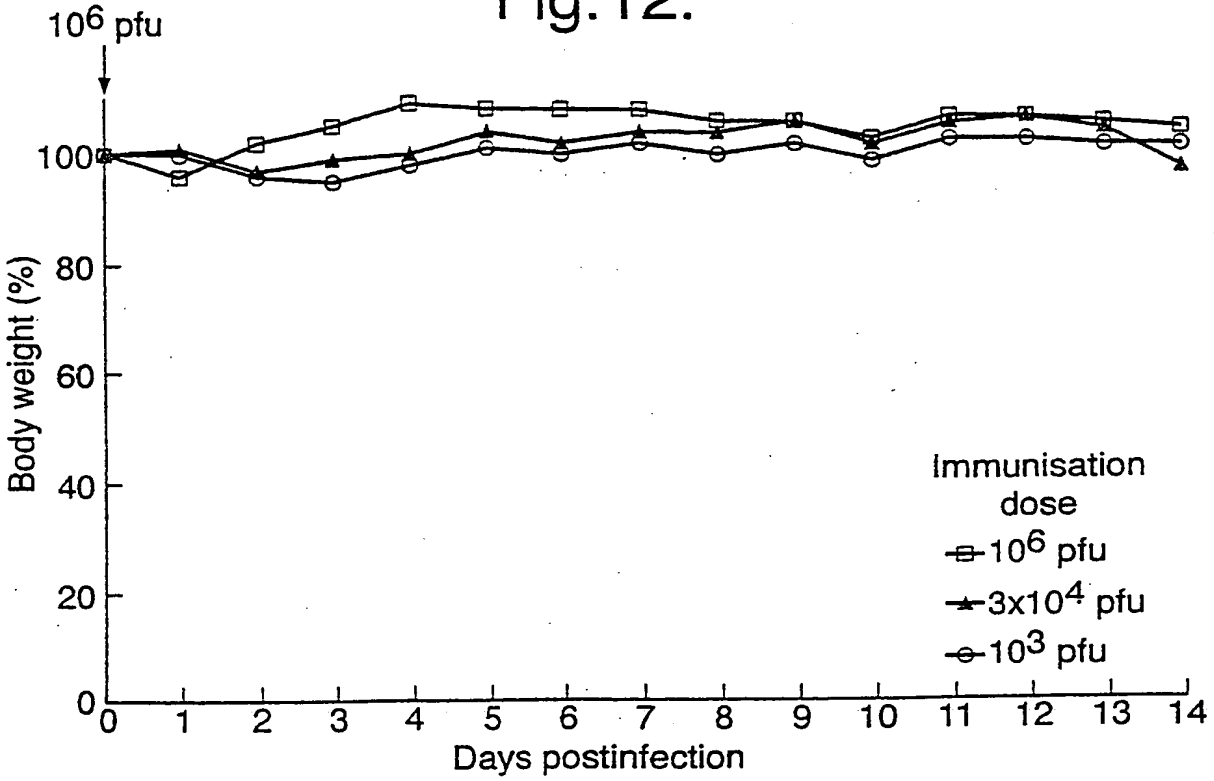

10^6 pfu
Body weight (%)
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Days postinfection
Immunisation dose
10^6 pfu
3x10^4 pfu
10^3 pfu

Fig.12.


10^6 pfu
100
80
60
40
20
0
Body weight (%)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Days postinfection
Immunisation dose
10^6 pfu
3x10^4 pfu
10^3 pfu